



British Guiana.

REPORT

OF THE

DIRECTOR OF AGRICULTURE,

FOR THE YEAR

1941.

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DEPARTMENT OF AGRICULTURE.

ADMINISTRATION REPORT OF THE DIRECTOR OF AGRICULTURE FOR 1941.

SECTION I.

AGRICULTURE IN THE COLONY.

General.

Crop conditions during 1941 showed a marked improvement over the previous two years and taken as a whole the year was one of the best the Colony has experienced. The "Grow More Food Campaign" had also begun to show results.

2. As was to be expected, sugar had not fully recovered from the adverse weather conditions of 1940, but the output nevertheless reached the satisfactory total of 188,000 tons. The rice spring crop was above the average and the autumn crop was also a good one. The total production for both crops approximated 50,000 tons of milled rice. Reflexion in exports will not be apparent until 1942.

3. Ground provision farmers and fruit growers experienced a good year. Established markets reported an increased volume of business while the Government Produce Depot showed a substantial turnover and highly creditable results for the period January to December, 1941. Coconut cultivations did not recover fully from the drought and imports of edible oil could not be avoided. The position, however, is showing considerable improvement. Coffee likewise is not yet back to normal.

4. Livestock production, while showing some improvement in quality, has hardly had time to recover from the effects of a feed shortage during 1939 and 1940. Prices were attractive for all classes of stock—cattle, pigs and poultry—and greater interest has developed as a result. Unfortunately, a suspected outbreak of Foot and Mouth disease in the interior, adjoining the Brazilian border, has tended to restrict the supply of slaughter cattle. Distribution of breeding stock of every kind from the Government Stock Farm, Georgetown, increased. Still further efforts will be made to develop livestock production to meet the increased demand for animal products. This is essential if nutrition standards are to be improved, having regard also to the restriction on imports now in force.

Colonial Development and Welfare.

5. The Comptroller and staff visited the Colony from March 8 to April 6, during which time a study was made of conditions—agriculture, economic and social. Reports with recommendations were submitted to Government and indications given of those for which financial assistance appeared desirable under the Colonial Development and Welfare Act. The recommendations in regard to agriculture are contained in Legislative Council Paper No. 7/1941.

6. Emphasis is laid on the following:—

- (1) Provision of adequate drainage and irrigation for the coastal belt with effective centralised control to provide for more efficient distribution and use of water supplies. It is stated unequivocally that this is a pre-requisite to the initiation of development schemes and for safeguarding production of crops, particularly rice, now subject to extremes of flood and drought in many areas.
- (2) The need for a mixed farming policy which will produce a regular cash income to the peasant and labourer throughout the year and a high degree of self-sufficiency.
- (3) Intensive livestock production as a corollary of (2) by the development of the soiling system of animal husbandry on individual holdings of half to one acre in size, where also the peasant homes should be sited.

- (4) Greater consideration to be given to (i) security of tenure and compensation for unexhausted improvements ; (ii) financial aid for the peasant and (iii) organization of marketing and centralised processing.
- (5) Realisation of the fact that there is no single export crop or even combination of crops other than sugar-cane and rice which are suited to the coastal conditions, or which would give a desirable form of rural economy. In this connection, tribute is paid to the efficiency of the sugar industry and to the developments which have taken place in the rice industry.
- (6) Strengthening the staff of the Department of Agriculture by the appointment of a livestock and a marketing officer and a larger number of subordinate agricultural instructors, which are essential for implementing the recommendations.

7. This Department has drawn up detailed estimates for financial assistance under the Colonial Development and Welfare Act, as considered necessary for carrying out the main recommendations of the report, except for drainage and irrigation which has been done by the Department concerned. Applications have gone forward for : livestock officer ; marketing officer ; livestock farm extension ; soiling unit demonstrations ; marketing depots in rural areas ; improvements at central rice station.

8. Two other projects which have been estimated for are under consideration by the Comptroller : the initial developments connected with intensive settlement at Anna Regina and assistance to cattle ranching in the interior. In addition, the Comptroller has himself made small grants for extension work in bee-keeping and prizes for competition among allotment cultivators in the Georgetown and New Amsterdam Schemes.

Weather Conditions.

9. Details of the meteorological data obtained during the year are given in the separate Meteorological Report of the Department.

10. While the total rainfall for the year approximated the average, the distribution showed some peculiar features. The total precipitation at the Botanic Gardens, Georgetown, was 90.11 inches as compared with 69.29 inches in the year 1940 and with 90.41 inches, the average precipitation for the past 61 years (1880-1940). There was a marked shortage during the months of February, March and part of April and this was reflected in the returns from all three counties. This part of the year is regarded as the short dry season, but in 1941 it was exceptionally dry and droughty. The rainfall in the Botanic Gardens for February was 1.26 inches and for March 1.33 inches, being lower than the average by 4.36 and 4.86 inches respectively. Heavy rains were experienced during the months of June, July, August, October to December. October, which is usually a dry month, registered the highest fall on record for that month and was 6.46 inches above the average. It was this unusually wet October which caused damage to the ripening padi crop as mentioned elsewhere. From June to December the rainfall was 21.13 inches in excess of the average. Rain fell on 218 days of the year as compared with 179 days in 1940.

11. The following table shows the rainfall at the Botanic Gardens Meteorological Station for 1941 and the average for the 61-year period 1880-1940, together with the general rainfall for 1941 in the three counties and the average rainfall for the 10-year period 1932-1941 :—

TABLE I.
MEAN RAINFALL AT COASTAL STATIONS.

MONTHS.	BOTANIC GARDENS.		BERBICE.		DEMERARA.		ESSEQUIBO.	
	1941. Inches.	Average 1880-1940. Inches.	1941. Inches.	1932-1941. Inches.	1941. Inches.	1932-1941. Inches.	1941. Inches.	1932-1941. Inches.
January ...	4.17	8.82	8.75	6.93	4.82	10.31	5.36	9.87
February ...	1.26	5.62	1.42	5.13	1.57	4.48	1.11	3.93
March ...	1.33	6.19	1.24	6.48	1.06	5.59	1.15	5.11
April ...	4.17	6.20	4.89	8.37	3.29	6.97	2.49	6.02
May ...	5.91	11.44	8.52	9.49	7.52	10.22	7.32	10.48
June ...	21.04	12.32	13.68	12.37	20.39	13.71	20.40	13.98
July ...	12.26	10.32	9.18	9.83	10.84	10.37	12.69	11.18
August ...	9.98	6.79	6.83	7.28	8.09	7.53	7.62	7.11
September ...	3.35	2.94	2.25	2.16	2.61	2.59	3.23	3.81
October ...	9.20	2.74	5.62	3.07	7.06	3.95	8.11	5.16
November ...	7.36	5.36	5.90	3.29	5.72	4.55	6.01	6.08
December ...	10.08	11.67	9.24	9.56	9.80	11.19	8.54	11.62
Total ...	90.11	90.41	77.52	83.96	82.77	91.46	84.03	94.35

AGRICULTURAL INDUSTRIES.

Sugar.

12. The sugar crop for 1941 amounted to 188,009 tons, an increase over the 1940 crop of 20,364 tons. Although the effects of the drought are beginning to wear off—a yield of 2.96 tons per acre in 1941 compared with 2.63 tons in 1940—the Colony's yield is still below that (3.12) of 1938; moreover, as the trend of yield had for some years been definitely up-ward, the anticipated yield in 1941 under normal conditions would have been even higher than the 1938 figure.

13. Of the area in cane, 69 per cent. of the acreage was in P.O.J. 2878, 28 per cent. in Diamond 10, and 3 per cent. in other canes.

14. Table II gives the returns of cane acreages reaped, production of sugar, yield per acre and rum produced in 1940 and 1941, and Table III gives the exports of sugar, rum, molasses and molascuit for 1940 and 1941.

TABLE II.
CANE ACREAGES REAPED, PRODUCTION OF SUGAR, YIELD PER ACRE, AND RUM PRODUCED IN
BRITISH GUIANA DURING 1940 AND 1941.

Year.	Area Reaped (inclusive of farmers' canes)— English Acres.			Sugar Produced (inclusive of farmers' canes) — tons.			Yield per acre — tons.			Rum Produced—Proof Gallons.		
	Berbice.	Demerara.	Total: Colony.	Berbice.	Demerara.	Total: Colony.	Berbice.	Demerara.	Total: Colony.	Berbice.	Demerara.	Total: Colony.
1940 ...	24,497	39,195	63,692	70,425	97,220	167,645	2.87	2.48	2.63	1063,263	1,021,052	2,084,315
1941 ...	23,539	40,002	63,541	78,892	109,117	188,009	3.35	2.73	2.96	1033,303	1,472,011	2,505,314

TABLE III.
EXPORTS OF SUGAR, RUM, MOLASSES AND MOLASCUIT 1940 AND 1941.

Year.	Sugar.			Rum.		Molasses.		Molascuit.	
	Tons.	Value in \$	Value per ton in \$	Proof Gallons.	Value in \$	Gallons.	Value in \$	Tons.	Value in \$
1940 ...	142,714	7,130,274	49.96	1,824,450	743,975	3,719,531	191,761	560	10,332
1941 ...	154,371	8,254,759	53.47	1,343,937	783,180	5,440,746	305,269	...	...

Rice.

15. The estimated acreage under rice during 1941 was 82,906 acres but when the spring crop, which was well above the average, is included the area reaped

amounted to 103,157 acres, an increase in the area *reaped* of about 67 per cent. over that of the previous year, when there was practically no spring crop at all and a very poor autumn crop. It is unfortunate that because of unfavourable weather conditions at harvest, losses in some districts were substantial and the returns were not as high as was hoped for ; nevertheless, the total crop for the Colony was a relatively large one. It is estimated that about 51,060 tons of rice were produced ; 43,127 tons of which were from the autumn crop.

16. With the spread of the war to the Pacific, renewed emphasis has been placed on the necessity to increase the Colony's output of this crop as substantially as possible to help meet Caribbean requirements. It is, therefore, most encouraging that the industry made so marked a recovery after the severe drought conditions of 1939 and 1940. Some significance of this recovery is indicated by the fact that if the normal basis of consumption is taken the export surplus available from the total 1941 spring and autumn crops would be three to four times the 1940 surplus. Of course, these are not normal times and should there be any difficulties in obtaining, say, wheat flour, the domestic consumption of rice might be above normal.

17. A good deal of the effort of the " Grow More Food Campaign " was directed towards rice expansion. In order to facilitate reaping and to help the farmer meet the relatively high cash expenses to be incurred in this connection, special harvesting loans were made by Government through the Co-operative Credit Banks on a much larger scale than in any previous year. Thus, \$41,605 was lent in 1941 compared with only \$14,649 in 1940. Further, in order to facilitate the planting of as large areas as possible, \$6,000 was utilised during 1941 for making adequate seed supplies available to growers after the drought of the previous year.

18. The work at Anna Regina has been continued and expanded and efforts are being made to increase the output of the estates. Further reference to this is made under Land Settlement.

19. The Rice Marketing Board, reference to the re-organisation of which was made in previous reports, continued as the sole agency for handling the milled product. Given below are the prices for rice which the Board fixed for the purchase of the autumn crop. They represent an increase in those of the previous year.

Super \$5.20 ; Extra No. 1 \$4.80 ; No. 1 \$4.40 ; Extra No. 2 \$4.10 ; No. 2 \$3.80 ; No. 3 \$3.60 ; Super Broken \$3.20 ; Broken \$2.70 ; White A \$4.80 ; White B \$4.00 ; White Broken \$2.70. Prices in Georgetown per 180 ¹/₂ bag.

20. Table IV gives the returns of acreages reaped in the three counties, production and exports during 1940 and 1941.

TABLE IV.

RICE ACREAGES, PRODUCTION AND EXPORTS, 1940 AND 1941.

Year.	Area Reaped (Spring and Autumn Crops) English Acres.					Yields.		Exports.				
	Barbice.	Demerara.	Essequibo.		British Guiana total acreage (reaped).	Padi tons.	Rice tons (60% yield of cleaned Rice from Padi)	Rice.			Padi.	
			Mainland	Islands				Tons.	Total Value in dollars.	Value per ton in dollars.	lb.	Total Value in dollars.
1940 ...	20,448	22,155	8,416	9,891	60,910	51,520	30,948	11,691	708,814	60.63	7,980	82
1941 ...	38,884	35,084	14,152	15,037	103,157	85,100	51,060	8,881	584,895	65.86	2,520	35

Coconuts.

21. The area under coconuts in 1941 was 22,536 acres. The effects of the drought on the Colony's coconut yield were still perceptible and the view of the industry was that normal yield would not be again achieved before the latter part of 1942. One of the indirect effects of the short crop has been the marked tendency for local stock feeds to rise in price and to be uncertain in supply. Coconut meal, one of the by-products of coconut oil, is an important article of food, especially for pigs, and to some extent for poultry. It is unfortunate that this should have occurred at a time when a drive is being made on a Colony-wide scale for an increase in these livestock industries. On account of the poor yields, coconut oil mills were short of

supplies for manufacture of edible oil and it became necessary to import oil for cooking purposes. 183,376 gallons were imported.

22. The exports were as follows:—

Coconuts (No.)—4,560 valued at \$55; Copra—Nil; Coconut Oil—Nil.

Coffee

23. The area estimated under coffee in 1941 was 2,851 acres of the Liberian variety. Yields have been adversely affected by the drought years of 1939 and 1940; this, together with labour difficulties, caused a temporary shortage on the local market and necessitated small imports from the West Indies. In recent years export markets were so well supplied with higher grades that the industry can look only to the local market as an outlet. With the protection afforded by the tariff local prices should be maintained at a satisfactory level. Thus, there was a substantial rise in price for coffee during the year—an average of 13 cents per lb. compared with 7.8 cents in 1940 and 7.7 cents in 1939. It is the case, however, that many of the holdings are too large to be worked economically.

Citrus and other Fruit.

24. The area under grapefruit, oranges and other fruit was 1,792 acres and that under limes 959 acres. The Department of Agriculture has continued its vegetative propagation and distribution of varieties of good commercial quality. During the year prices were unusually good with a sustained demand and citrus proved one of the most profitable of the Colony's minor crops. Consequent on this, there has been increasing interest and activity in regard to citrus plantings.

Vegetable Crops.

25. The area under mixed provision crops was returned at 15,542 acres and under corn at 761 acres. The increase in the area under provision crops is heartening and although even greater expansion should be hoped for, the returns from all established markets indicate that a much greater volume of business was done during the year. The Government Produce Depot, a newcomer in the field itself, did a substantial volume of business during the year as indicated in paragraphs 58 and 59 *infra*. There is evidence too that some of the areas are being more intensively worked.

26. The Department used its extension staff to assist in the collection and distribution of planting material and this, it is considered, helped substantially in encouraging increased plantings. Work in connection with the home preparation of some of these foods—production of tapioca, splitting of peas—was maintained.

27. It is generally accepted that there has been a definite increase in the local consumption of local foods in general. One of the chief of these is plantains. It is all the more gratifying to observe that in spite of this, the exports of this vegetable to the Caribbean were over three times that of the previous year and nearly three times the average exports of the previous five years (1936-1940).

28. One of the chief troubles in truck gardening has been the lack of a continuous supply of viable seed of varieties which have been proved to give good results under local conditions. During the year, therefore, a good deal of attention was directed to the importation and collection of seed and planting material. The seed was carefully stored so that a continuous supply of seed which can be relied on to germinate was made available. As a result, seeds stocked by the Department are largely sought after in preference to ordinary commercial stocks. Work in this direction is thought to have made a helpful contribution to expanding the cultivation of home and kitchen gardens. Inadequate supplies of water and animal manure are frequent drawbacks.

LIVESTOCK.

29. The Government Veterinary Surgeon reports that weather conditions being more normal, animals under range conditions are in better condition and there is a slight increase in stock population. On the congested grazing areas of the coast, the number of stock is still far too high. Generally speaking, however, the cattle

population on the coastland has not increased in the last 15 years, the result of inadequate pasturage due to steady increase in cultivated areas. More intensive animal husbandry on the coastland is essential. Food producing animals offer a ready outlet for the surplus and waste material of grain and other crops, of which over-production sometimes occurs. More interest in livestock matters is evident and Village Councils are co-operating with the Department of Agriculture in maintaining stud centres and castrating scrub males in their villages. The successful operation of a livestock policy depends chiefly on a large and increasing production of improved breeding stock for distribution and experimental work, which only a large and properly equipped Government Stock Farm can provide.

30. *Beef Cattle*.—Some of the large stock owners have imported this year Zebu bulls from Trinidad to improve their herds. Grade Red Poll and Hereford bulls are replacing scrub bulls, and calves recently born show some improvement, but more bulls are necessary to effect material improvement.

31. *Dairy Cattle*.—The demand for milking stock could not be met as small dairy owners are not inclined to sell except at unreasonable prices. The Holstein breed is being extended to the country districts to increase the production of clean milk, but crossing with the Zebu or Indian breed is necessary to maintain hardiness. The supply of local and imported concentrates was uncertain during the year and this has affected milk yields somewhat.

32. *Pigs*.—In continuation of the previous year's work in improving the quality of pigs for a local bacon industry, more pure-bred pigs were distributed. Unfortunately, however, the shortage of and high prices for local feeds (coconut and rice by-products) as a result of two successive drought years occasioned a temporary shortage in supply of hogs for the fresh meat and bacon trades, and a consequent abnormal rise of producers' prices to 19 cents per lb. dressed carcase weight. Production is on the increase again and, with a better informed type of individual now rearing hogs of good quality to standard live weight of 200 lb. at seven months of age, progress should be fairly rapid in developing a bacon industry. In this connection, killings of pigs by the Demerara Meat Company alone were 16 per cent. more than in 1940.

33. *Poultry and Eggs* are in great demand and prices have risen. Increased production and improvement in quality are being affected by greater distribution of hatching eggs and day old chicks. In the country districts pure-bred cockerels are being substituted for the mongrel male, and some improvement is already noticeable in the half-bred progeny. The limiting factor to the rapid extension of poultry work has been the lack of a proper hatchery, which the large incubator-batcher should materially relieve in the 1942-43 season.

34. The livestock returns for 1941 are as under:—Cattle 140,924; Horses 2,974; Buffaloes 44; Goats 12,147; Mules 1,837; Asses 6,394; Sheep 33,773; Swine 22,889.

35. *Exports*.—On the local market this year increased demand for all classes of livestock resulted in a rise in producers' prices. With attractive prices, increased production tends to occur and the local demand would soon be over-supplied particularly with poultry, eggs and hogs. The export markets of the British West Indies offer an attractive outlet for surplus products, but production must be sustained, uniformity and quality improved if it is to be held and developed.

36. The following are the exports:—

Year.	Cattle. No.	Pigs. No.	Poultry. Value \$.	Eggs. Value \$.
1940	435	751	4,007	180
1941	201	101	1,694	Not available

Shipments of frozen meat were made during the year, namely, 26,091 lb. beef and 2,000 lb. pork.

37. *Animal Health*.—On the coastlands no outbreaks of any notifiable diseases occurred. Foot and Mouth Disease occurred for the first time in the hinterland savannahs of the Rupununi District among ranch cattle along the Takutu River.

The whole district and outlet of the Cattle Trail on the intermediate savannahs were quarantined and the movement of stock in or out of the area prohibited. Anthrax was reported in one case of a grade Holstein cow which was successfully treated with serum. No further cases occurred in the herd.

SECTION II. WORK OF THE DEPARTMENT OF AGRICULTURE.

A.—THE FIELD BRANCH.

I.—INVESTIGATION AND EXTENSION.

General.

38. Experiment Stations, sub-stations, including nurseries and seed distribution centres, observation and multiplication plots were maintained both at Headquarters and in the districts. Advisory work increased substantially as a result of the "Grow More Food Campaign" and expanding livestock activities. Organisation and distribution of seed padi supplies and other planting material continued to be an important feature of the work in the districts, while vegetable seed importations show a large increase in volume. Co-operative Credit Bank activities absorb a good part of the time of the District Officers who are Chairmen of these Bank Committees. Several new banks were established and greatly increased Government loans were made to encourage agricultural production.

39. The primary problem affecting agricultural extension is still that of irrigation and drainage and until this problem is tackled resolutely, production, especially of crops like rice, will be subject to wide fluctuation. Even in areas where capital improvements have been carried out, the maintenance of internal drainage by villagers is generally inadequate. This points to the need for effective measures of control and their rigid enforcement, especially with the development schemes under the Colonial Development and Welfare policy.

Seed Padi Distribution.

40. The following table gives particulars of seed padi distributed during the year under review :—

District.	Seed Padi—Pure Line (Departmental stocks). Bags of 140 lb.	Selected Seed purchased. Bags of 140 lb.
Berbice ...	160 bags.	...
East Demerara ...	456 "	...
West Demerara ...	100 "	...
East Bank, Demerara	10 "	...
Essequibo Coast and Islands ...	440 "	...

The total distribution amounted to 4,951 bags equivalent to 693,140 lb.

41. The policy is to maintain selected strains of the *Blue Stick* variety for distribution in Essequibo, of *No. 79* for distribution in Berbice and East Demerara, while commercial trials of *D110* are being carried out in West Demerara, where this variety is favoured as against *No. 79*. The variety *D110* appears to have general utility and is likely to be extended in other areas.

Land Settlement.

42. *Toevlugt Farm Unit*.—This unit of approximately 10 acres in area is now well established. In addition to providing information of economic value for future development, it is a useful demonstration of a self-sufficient holding. A wide range of production, including orchard, forage and food crops has been developed and cultural methods designed to maintain fertility are practised. Unfortunately, little interest is shown in the work by neighbouring farmers who do not appear to be anxious to improve the status of their farming operations.

43. *Anna Regina Estates*.—The Department continued to operate the Anna Regina estates during 1941. The Comptroller for Development and Welfare in

his report points out that the Essequibo Coast offers possibilities of building up a new form of peasant economy and production and stresses that "the circumstances and condition of the people in that area demand that an effort should be made to develop there a mixed agriculture in which the East Indian population is traditionally interested."

44. In this connection, a Committee, comprising the Director of Agriculture as Chairman, the Director of Medical Services, the Commissioner of Labour and Local Government and the Director of Public Works, was appointed to make recommendations regarding the possibilities of establishing demonstration holdings or homesteads at Anna Regina. This Committee has submitted a preliminary report. It is considered that investigations as regards layout, housing and malaria incidence on both frontland and backland sites must first be undertaken. It is also planned to establish and operate an experimental ghee plant and demonstration stock units. During 1942 steps will be taken to implement these proposals along the lines recommended.

45. In last year's report reference was made to the development work undertaken on the estates at the beginning of the war in an effort to increase rice production. Further developments are recorded in 1941 which was the second year of the new scheme under which the estates are managed by the Department.

46. On account of the dry weather that prevailed from January to May, the spring rice crop was not a large one. The yield totalled about 8,000 bags, of which about 2,000 bags were from volunteer growth. The crop was advertised for sale and considerable difficulty was experienced in disposing of the padi at a satisfactory price. At the autumn rice crop 1,507 acres were planted by 596 tenant farmers. A spell of very hot dry weather in September and October impeded the development of the grain and the yield did not come up to expectations. The percentage of light padi was unusually high. Showers at reaping time affected quality to some extent. The crop was advertised for sale on September 27, but no tenders were received. In order to safeguard the rents and advances, Government decided to take over the crop on the basis of the prices considered fair for the various grades of padi in relation to the price of rice fixed by the Marketing Board. The crop amounted to 18,168 bags. The amount paid out for padi was \$32,755.56.

47. The difficulty experienced in disposing of the autumn crop was anticipated and in view of the inadequacy of milling facilities on the Coast generally, Government decided, towards the end of September, to recondition the existing milling plant at Anna Regina. This was undertaken as a safeguard, in the first instance, and expenditure in the sum of \$4,000 was approved to provide for an extension of the concrete drying area, an additional storage bond and the purchase of a boiler and machinery. In spite of delays, caused by the difficulty in obtaining materials, the work was practically completed by the end of the year. On October 21, Government decided to mill and a Factory Manager was appointed on November 1 to supervise operations.

48. On May 21, Government approved of the expenditure of \$6,500 from the Development Trust Fund to break an additional 230 acres for rice cultivation at Section "B," Anna Regina, and to provide the necessary internal drainage arrangements. The work was completed and the new area planted at the autumn crop. Estimates were submitted for proposed capital expenditure in 1942 to clear and fence 500 acres of back lands for pasture and break an additional 180 acres of rice lands. The Company Paths on the property were rented from the Department of Lands and Mines in order to secure more effective control.

49. The financial statement for the year showed current expenditure as \$11,168.73 and revenue \$10,291.40. Rents totalling \$2,278.78 remained outstanding. Given a fair crop, this amount should be collected in 1942.

50. *Bush Lot Land Settlement.*—This scheme had another successful year and the following figures will serve to indicate the progress made :—

	1938	1939	1940	1941
Area planted Autumn padi crop (acres) ...	175	186	246	338
Quantity of padi sold (bags) ...	2,124	2,967	4,321	4,865
Amount paid to settlers ...	\$ 2,846 16	\$ 5,523 30	\$ 8,469 16	\$ 8,875 84
Rents collected ...	768 19	1,586 75	1,800 95	2,124 24
Number of resident settlers indebted to Government (out of 52) ...	34	12	5	3

51. All the settlers paid up their 1941 dues in full. The population increased from 178 to 215 souls. The results indicate that given an encouraging price for padi, their principal source of revenue, and facilities for stock-raising, satisfactory progress can be achieved.

Beekeeping.

52. During the year 197 queens were distributed from the Department's Demonstration Apiary. Work with queen-breeding and demonstration continues but there was greater concentration on extension work in connection with rural apiaries this year. Courida (*Avicennia nitida*) is now accepted as the chief honey plant of the Colony and there has been a perceptible trend for expansion of the industry especially in those areas with large supplies of Courida. This expansion has been encouraged and, in some degree, initiated by the Department's assistance with the establishment of apiaries in the case of promising beekeepers.

53. Special mention should be made of the activities of the B.G. Beekeepers' Association during the year, especially in connection with a honey expansion drive. This organisation has an enterprising executive committee and an active body of members. There is close collaboration with the Department through which applications for financial aid from Government and under the Colonial Development and Welfare Act have been made.

Botanic Gardens and Nurseries.

54. An effort has been made to replace the trees and palms lost the previous year as a result of the drought. The United States Air Base ordered 24,800, seedlings of various trees and this was undertaken in addition to the normal output of economic plants. The Gardens and Nurseries were well maintained and improvements made in the general conditions.

55. *Seed and Plant Exchange.*—The usual work under this head has been maintained. Seed and plants, both economic and ornamental, are received from various countries and there is a corresponding despatch of material to Gardens and Institutions abroad. In this way new additions to the local Gardens and Stations are regularly made.

Plant and Seed Distribution.

56. Activities under this head were accentuated both as a result of the "Grow More Food Campaign" and the effects of the 1940 drought. Nursery work was increased and additional funds were provided under War Emergency Measures.

57. The following is a list of the more important distributions: Seed Padi—693,140 lb.; Black Eye peas—3,000 lb.; other peas and beans—122 lb.; vegetable seed and bulbs—277 lb.; seedlings of various vegetables (No.)—6,875; Sweet Potato cuttings (No.)—7,136; other food plants—160 lb.; budded citrus—611 plants; limes—2,112 plants; other fruit (Mangoes, Pears, Papaw, etc.)—4,559 plants; Arabian Coffee—300 plants.

Government Produce Depot.

58. The Government Produce Depot was established on November 1, 1940, under the aegis of the Department of Agriculture. It arose out of the need for providing additional marketing facilities following increased production of foodstuffs and is now an integral part of the "Grow More Food Campaign". For working expenses for the months of November and December, 1940, the sum of \$960 was

allocated, and the sum of \$4,000 was placed at the disposal of the Depot to be used as a revolving fund for purchasing produce from farmers; in January, 1941, a further allocation of \$4,500 was made to cover working expenses for the year.

59. The total volume of business done by the Depot—purchases and sales taken together—for the period November 1, 1940, to December 31, 1941, amounted to \$81,838.86, while that for the year January 1, 1941, to December 31, 1941, amounted to \$71,064.06. The initial difficulties of the first two months of operation *i.e.* November and December, 1940, resulted in a deficit of \$1,872.26. The improvement in 1941 was progressive, and the total trading profit accruing for the year was \$4,368.60, which was nearly sufficient to cover the working expenses, exclusive of the salary of the Supervisor.

60. A Depot Committee consisting of the Director of Agriculture (Chairman), Deputy Director of Agriculture, Deputy Colonial Treasurer and Mr. T. Mahood, Accountant of the Public Works Department, functioned during the year. A complete report on the working of the Depot from its inception has been published as a Sessional Paper of the Legislative Council. The difficulties encountered have been explained and the steps taken to meet them. Certain improvements have also been made for better accommodation of the public.

War Emergency Measures.

61. The following sums were allocated to the Department to provide additional services in connection with the "Grow More Food" efforts: General, including imported seed supplies—\$1,800; seed padi—\$6,000. These figures do not include expenditure for re-conditioning work and extension of padi cultivation under the Arna Regina scheme, met by a grant from the Development Trust Fund; for additional loans to Co-operative Credit Banks; for establishment and operation of the Government Produce Depot. Allotment schemes, storage trials in connection with padi and ground provisions, irrigators and milling devices for small farmers, all received attention.

62. The Food Production Committee comprising representative members of the Advisory Board of Agriculture, together with certain co-opted members, continued to render helpful assistance. Progress reports were submitted periodically to Government.

II.—AGRICULTURAL EDUCATION

School Gardens.

63. There were fifty-four school gardens registered by the Department, as compared with twenty-nine in 1940:

Essequibo 10; West Demerara 9; East Bank and Georgetown 3; East Demerara 11; West Coast, Berbice 8; Eastern Berbice (New Amsterdam to Springlands) 13.

The 29 old gardens receive grants from the Department of Agriculture and the 25 new gardens receive grants from the Education Department under Regulation 18 of the Code. Seeds and complete sets of tools and/or replacements were issued to each garden. Advisory visits are paid by the District Agricultural Officers and reports submitted on the work carried out.

Field Days.

64. Four sugar field days were held during the year and a total of 88 members of the estates' staffs attended. In addition most managers and deputy managers visited the Sugar Experiment Station at least once during the year.

B.—THE RESEARCH BRANCH.

65. Owing to the necessity for strict economy in the use of paper, it is not possible to present the customary review of this branch of the Department's activities. Breeding and field studies connected with the major industries, sugar and rice, were fully maintained during the year. Food and forage crops, tobacco, legumes, fruit and fibres all received increased attention. Normal work was curtailed somewhat in the chemical division in order to give more attention to food

problems, while in the fields of entomology and botany no special studies could be undertaken due to staff shortage.

C.—LIVESTOCK BRANCH.

Government Stock Farm.

66. *Cattle*.—The herd at December 31, 1941, was as follows:—

Breed,	Bulls.	Cows.	Heifers.	Calves.		Totals.
				Bulls.	Heifers.	
Holstein ...	2	4	1	1	2	10
Guernsey ...	2	...	...	...	...	2
Red Poll ...	2	...	1	...	1	6
Hereford ...	1	2	2	...	...	5
Creoles ...	...	7	...	1	...	7
Creole x Red Poll ...	1	1	3	1	...	6
Creole x Hereford ...	1	...	2	...	...	3
Zebu ...	1	...	...	...	...	1
	10	16	9	2	3	40

67. 221 small dairymen's cows were bred on the Farm. Two two-year-old pure-bred Red Poll bulls born at the Farm were sent to La Belle Alliance agistment area for breeding purposes.

68. *Poultry*.—The breeding section has again been increased this year with the Barred Plymouth Rock and Rhode Island Red breeds. Egg production for year—19,730 eggs; sale of cockerels for breeding purposes—174 birds; sale of day-old chicks—493 chicks. The following outstations were also supplied with breeding stock: Anna Regina—22 birds; Ebini Experiment Station—19 birds; Leguan—9 birds.

69. *Pigs*.—The demand for breeding stock is still somewhat greater than the supply, although the breeding herd has been increased in 1940 and four more young gilts were reared this year. 106 pigs were sold to farmers for breeding purposes.

Fodder and Pasture Crops.

70. Work is in progress on yields and stage of growth when feeding value is at its highest, with some of the more important grasses and legumes for the heavy clay lands of the coastal belt. For the mineral deficient, sandy, hill lands of the intermediate savannahs, introduced and indigenous species are being tried at the Ebini Station.

71. Para grass (*Panicum barbinode*) and Guatemala grass (*Tripsacum laxum*) have been selected for the coastland, and Wynne grass (*Melinis minutiflora*) is making good growth at the Ebini Station. Horse weed (*Alysicarpus vaginalis*) an indigenous uncultivated legume of high feeding value well liked by all classes of stock, is being brought under cultivation. It gives promise of being a very valuable soilage and hay crop especially for dairy cattle feeding. *Indigofera endecaphylla* an introduced legume used for many years as a cover crop is now being grown for pasture. At the Ebini Station it has spread rapidly; the root system has already been found at a depth of over three feet. Dallis grass (*Paspalum dilatatum*) and *Lespedeza sericea* have recently been imported from the United States of America. Dallis has made good growth, but *Lespedeza* is not doing very well.

Breeding Stations.

72. *La Belle Alliance, Essequibo*.—Satisfactory progress was made with the breeding work and the pure-bred Red Poll bulls performed 615 services during the year. Since the inception of the scheme, in January, 1939, 1,245 cows have been served. The average number of animals agisted on the pasture each month was 530.

73. *Anna Regina*.—The Canadian Berkshire boar performed 26 services during the year. At the poultry unit new stock comprising 20 young Barred Rock pullets

and two cockerels were received in November. 810 eggs were sold for hatching purposes. Pullets from the eggs sold last year started to lay and there is a great demand for the young breeding stock.

74. *Leguan Station, Essequibo*.—The Guernsey Bull "Candies Carbine" served 59 cows.

75. *Kitty Station, East Coast, Demerara*.—The Holstein bull "Governor Bill" bred 122 cows.

76. *Unity Station, East Coast, Demerara*.—The grade Holstein bull "Mazaruni Kerk" was transferred to the new station at Beterverwagting, and a pure-bred bull "Duke Kerk" sent up from the Farm. 139 farmers' cows were bred. The grade calves are being well cared for and growing well.

77. The following new units were opened during the year:—at Beterverwagting-Triumph, a station was opened in August with a grade Holstein bull "Mazaruni Kerk" and a pure-bred Canadian Berkshire boar; at Victoria, a pure-bred Canadian Berkshire boar was stationed in November; and, at Plaisance, a pure-bred Canadian Berkshire boar was stationed in November.

Live-Stock Experiment Station, Ebini Downs.

78. The scheme for a live-stock experiment station on the Berbice River savannahs, at a cost of \$30,000 over a five-year period to be met by a grant from the local Development Trust Fund, was approved by the Legislative Council in 1940; final approval was obtained from Sir Frank Stockdale and his Agricultural Adviser, Mr. Wakefield, during their visit to the station early in 1941. The scheme is to study the problems of the mineral deficient grazing lands comprising about 2,000 square miles which form the intermediate savannahs, with a view to their improvement and economic stocking. Work carried out at this station is expected to have a bearing on similar problems in the Rupununi District. The station has been almost fully stocked, while various buildings, corrals, paddocks and boundary fences, together with the layout of the area, have all been practically completed. Certain agricultural operations including planting of forage crops are in progress.

Rupununi Cattle Trail.

79. The Rupununi Cattle Trail was taken over by the Department in June, 1941, and a Cattle Trail Warden was appointed. The length of the trail from Takama on the Berbice River to Annai at the entrance of the Rupununi savannah is 184 miles and thence through the savannah to Dadanawa in the southern section for 150 miles. Substantial improvements have been made to paddocks, bridges and sheds, and other maintenance work carried out.

D.—AGRICULTURAL ECONOMICS, STATISTICS AND PUBLICATIONS BRANCH.

80. An economic survey of farming in the West Coast, Demerara, rice area was completed. Data for a live-stock survey were also being analysed. Records of price movements were maintained and all seasonal variations of crop arrivals at the Government Produce Depot.

Publications.

81. With the suspension in the issue of the *Agricultural Journal of British Guiana* as a war measure, the *Farm Journal* has become the chief regular publication of the Department. This is devoted mainly to extension service, is written in simple language that the average farmer can understand and its discussions are mainly of a practical nature. The circulation is steadily increasing.

82. *Sugar Bulletin* No. 10, recording the results of another year's work of the Sugar Experiment Station, was published.

83. A report on "An Economic Survey of Rice Farming in West Demerara" by Mr. H. D. Huggins, Agricultural Economist, was published in *Tropical Agriculture*, Vol. XVIII, No. 2, February, 1941, and in *The Rice Journal*, Vol. 44, No. 7, July, 1941.

84. A paper entitled "The Amazon Fly under Drought Conditions" by Mr. L. D. Cleare, acting Deputy Director, appeared in *Tropical Agriculture*, Vol. XVIII, No. 7, July, 1941.

E.—CO-OPERATIVE CREDIT BANKS' BRANCH.

85. The Credit Banks, which operate under the provisions of Ordinance No. 28 of 1933, continued under the chairmanship of the District Agricultural Officers. The Director of Agriculture is Chairman of the Co-operative Credit Banks Board and the Registrar, an officer of the Department of Agriculture, is Secretary. The lending capital of the banks is derived from two main sources—share capital and Government loans. Since the formation of these Banks in 1915 the total amount borrowed from Government is \$97,551 and at December 31, 1941, the balance owing on this was \$39,609.44.

86. On December 31, 1941, there were thirty-one banks on the register. Six of these are still in course of liquidation. At the close of the year the membership of the twenty-five functioning banks was 9,914. West Indians owned 44,084 shares and East Indians 21,216 shares out of a total issue of 71,051 shares. The paid-up capital stood at \$71,050.99.

87. At the end of the year loans totalling \$119,300.33 and interest amounting to \$4,129.42 were outstanding, as against \$98,300.33 and \$4,208.55 at the end of 1940. Below comparison is made of the business done during the years 1940 and 1941 :—

Year.	No. of loans made.	Amount of loans made.	Amount of loans recovered.	Interest collected.
1940 ...	1,168	\$ 46,288 61	\$ 37,112 49	\$ 9,708 56
1941 ...	1,644	75,318 00	50,311 88	11,772 80
Increase...	476	\$ 29,029 39	\$ 13,199 39	\$ 2,064 24

88. In addition to the foregoing, the machinery of the banks was again made use of by Government for making loans to rice growers under the provisions of the Rice Growers' Loans Ordinance, Chapter 155, for reaping, bagging and transporting the 1941 autumn padi crop. The total amount actually lent to borrowers was \$41,655. Of the amount of \$14,649 lent in 1940, only \$224.02 is owing, while \$16,000.01 has been already repaid in respect of the 1941 loans.

SECTION III.

BOARDS AND COMMITTEES.

89. In addition to the Executive and Legislative Councils, the Director of Agriculture served on the following Boards and/or Committees :—

- Sugar Experiment Stations' Committee (Chairman).
- Advisory Board of Agriculture (Chairman).
- Co-operative Credit Banks' Board (Chairman).
- Food Production Committee (Chairman).
- Central Drainage and Irrigation Board (Member).
- Rice Marketing Board (Member).
- Chamber of Commerce (Member).
- Bonification Works, D'Urban Park Committee (Chairman).
- Sugar Estates Over-population Committee (Member).
- Anna Regina Land Settlement Committee (Chairman).

90. The Deputy Director served on the following Boards and/or Committees :—

- Advisory Board of Agriculture (Deputy Chairman).
- Food Production Committee (Co-opted Member).
- Georgetown Allotment Committee (Member).

91. There was full collaboration between the Department and all Committees, Boards, or Authorities connected with agricultural enterprise and food supplies.

SECTION IV.

SUMMARY OF AGRICULTURAL LEGISLATION ENACTED DURING 1941.

92. The agricultural legislation enacted during the year included :—

- Defence (Rice Control) (Amendment) Regulations, 1941.

J. SYDNEY DASH,
Director of Agriculture.

May 26, 1942.